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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/619,215 | 07/14/2003 | Rainer Gadow | 9252-000001/DVA | 7011 |
| 27572 | 7590 | 11/01/2004 | EXAMINER | |
| HARNESS, DICKEY & PIERCE, P.L.C. | | | KOSLOW, CAROL M | |
| P.O. BOX 828 | | | ART UNIT | |
| BLOOMFIELD HILLS, MI 48303 | | | PAPER NUMBER | |
| 1755 | | | | |

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-------------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/619,215 | GADOW ET AL. |
| | Examiner C. Melissa Koslow | Art Unit 1755 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-80 is/are pending in the application.
- 4a) Of the above claim(s) 61-80 is/are withdrawn from consideration.
- 5) Claim(s) 16-21 is/are allowed.
- 6) Claim(s) 2,4,9-15,22-30,32-35,39-48 and 55-60 is/are rejected.
- 7) Claim(s) 3,5-8,23,31,36,37,38 and 49-54 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 December 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. 09/633,536.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/19/03.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 2-60, drawn to thermal insulating materials and methods for producing the materials, classified in class 252, subclass 62.
- II. Claims 61-65 drawn to a method of forming an insulating coating, classified in class 427, subclass 453.
- III. Claims 66-80, drawn to a thermally insulated article, classified in class 428, subclass 701.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product, such as a zirconia thermal insulating material.

Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a free-standing insulator article and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be

obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions II and III are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make other and materially different product, such as forming a layer of a thermally insulating zirconia onto a substrate.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Suter on 18 October 2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 2-60. Affirmation of this election must be made by applicant in replying to this Office action. Claims 61-80 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claims 61-80 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The drawings are objected to because in figure 8, "chemistry" is missing an "e".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities: The temperature range used to anneal the powder produced by the sol-gel process is unclear because the disclosure teaches different ranges. Pages 9 and 10 teach the range is 500-1200°C while page 21 and claim 32 teaches the range is 500-1700°C. This discrepancy needs to be clarified. Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not teach the mixture of solvents as claimed in claim 1 and 5. The specification does not teach the mixture of salts as claimed in claims 6. The specification does not teach the mixture of grinding elements as claimed in claims 17. The specification does not teach the mixture of alcoholates as claimed in claims 35. Finally, the specification does not teach the material resulting from the sol-gel process have the characteristics of claim 41.

Claim 36 is objected to because of the following informalities: “formates” is misspelled. Appropriate correction is required.

Claims 29 and 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification teaches on page 11 the starting materials used the sol-gel process of claim 29 are soluble salts of M and Me, not oxides and any salts in claim 29. Page 23 of the specification teaches that soluble precursors salts of the claimed oxides and salts are used in the sol-gel process and that the resulting oxides and salts are precipitated during the process. It does not teach adding the claimed oxides and salts as claimed in claim 39. These discrepancies need to be clarified.

Claims 2 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite since it teaches oxides, hydroxides and oxy-hydrates of alumina are used in step a, but the claimed compounds do not exist. The specification teaches using oxides, hydroxides and oxy-hydrates of aluminum in step a. It is believed applicants meant to claim oxides, hydroxides and oxy-hydrates of Al, not Al₂O₃. The wording of claim 4 makes this claim indefinite. The specification teaches the drying step is preferably done by spray drying. It is suggested to reword this claim to correspond with each teaching of the specification, as in claim 38.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 9, 11-15, 22, 24-28, 40, 42-48 and 55-60 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 11 and 13 of U.S. Patent No. 6,602,814. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed material in the patent suggests that

claimed in this application. The material in the patent has the same composition as in this application. While the patent does not indicate the form of the taught material, one of ordinary skill in the art would have found it obvious to make the material into powders, which suggests the material of claims 9, 11-15, 22, 24-28, 40, 42-46 or to shape the material using any conventional means, such as those in claim 48, and then sintering the shaped material to produce a thermal insulating part. The suggested process and resulting product make obvious the process of claims 47 and 48 and the part of claims 55-60.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-13 and 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 96/28384.

This reference teaches aluminate pigment powders having the formula $Al_{2-x-y}La_xO_3:yM$, where M can be NiO or FeO.. When the molar amounts are determined from this formula, the resulting amounts are about 0.35-10 mol% M, about 25-75 mol% La_2O_3 and the remainder is alumina. These molar amounts overlap the claimed ranges. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The taught powder suggests that claimed, even though it is produced by a different process than those in the rejected product-by-process claims. Even though product-by-process claims are limited by and

defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The pigments are produced by calcining a mixture of precursor materials and grinding the resulting material into a desired size. Pigment are known to have a particle size in the range of a maximum of 20 microns, which overlaps the claimed range and the grinding would be expected to produce particles having a specific surface area that also overlaps that claimed, absent any showing to he contrary. The reference suggests the claimed material.

Claims 29-30, 32-35 and 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,849,659.

This reference suggests a material having the formula $\text{Sr}_{1-x}\text{La}_x\text{MnAl}_{11}\text{O}_{19}$, where x is 0.2-0.8 or $\text{Ba}_{0.4}\text{Sr}_{0.4}\text{La}_{0.2}\text{MnAl}_{11}\text{O}_{19}$. The taught material is produced by mixing alkoxides, or alcoholates of Al, Mn, La and Sr or Sr and Ba to form a solution, precipitating by the addition of water, separating the solid material, drying the solid and annealing the dried product at 500-1300°C (col. 3, lines 1-35). The alkoxides can be methoxide, ethoxide, propoxide or butoxide, which are the claimed alcoholates. When the amounts of the taught components of the formula are given as molar percentages, the amounts of would be expected to overlap, absent any showing to the contrary. The taught process is the same as that in claim 29, thus the result particles would be expected to have a size and surface area that falls within that claimed. The reference suggests that claimed.

Claims 16-21 are allowable over the cited art of record.

Claims 3, 5-8, 31, 37, 38 and 49-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 36 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

Claims 2, 4 and 39 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

The claimed processes are not suggested or taught by the cited art of record. There is no teaching or suggestion to form a material having the claimed composition by the process of claim 2. The art teaches co-precipitation processes, where all the precursors are soluble in the solvent. There is no suggestion in the art to granulate the precursor compositions in WO 96/28384. There is no suggestion or teaching in the art to use the adjustment of pH to precipitate the material or to use the compounds of claim 36 in the taught process. There is no teaching or suggestion in the art of performing the processes of claims 37-39 in combination with the taught processes. There is no suggestion or teaching in the art to form foamed ceramics of the taught material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Art Unit: 1755

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
November 1, 2004

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